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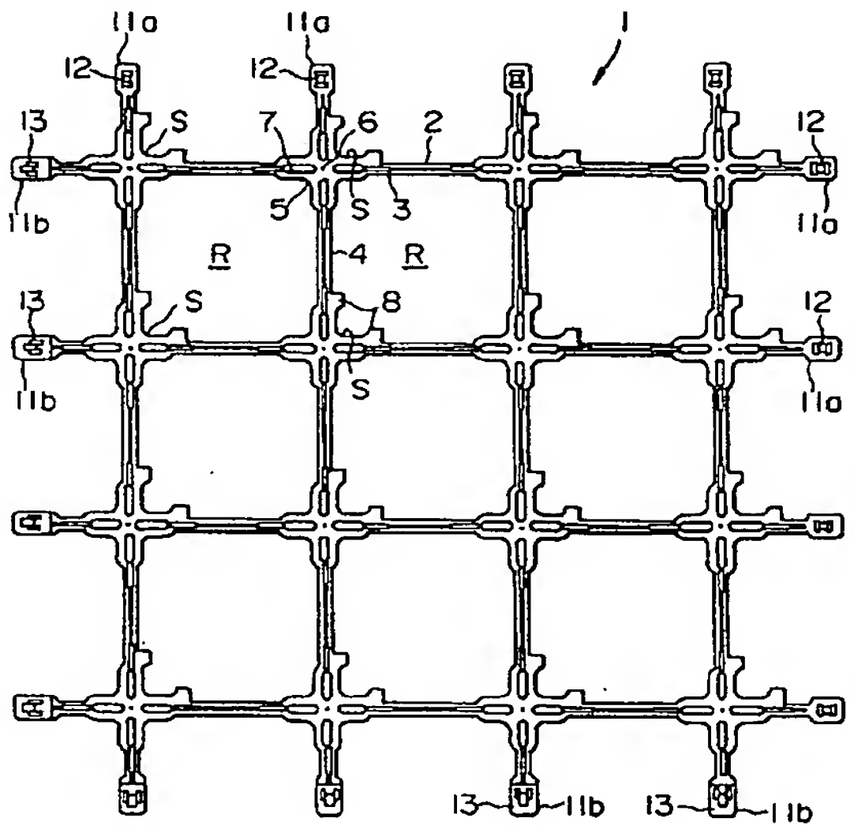
(54) Tile application backing material and tile application execution method.

(57) A tile application backing material (1) is disclosed having as an object thereof to greatly simplify tile allocation, positioning, and affixing and the like, and to strongly affix tiles and backing material (1) to a laying surface ; in order to achieve this object, this tile application backing material (1) is formed with a plurality of frame members disposed extending along sides of tiles having a polygonal shape, said frame members being connected at mutual points of intersection ; these frame members comprise a base portion (2) which is in contact with a laying surface and dividing plate portions (3) which are disposed thereabove. In a polygon enclosing one tile, tile support portions are formed in the vicinity of at least 2 intersections extending from frame members between the tile and the laying surface, so as to form a space between the tile and the laying surface to which adhesive is to be supplied ; elongated holes for filling with adhesive are formed in a penetrating manner in the inner portions of frame members in which tile support portions are formed and along the axis thereof. By means of the backing material (1) of the present invention, after allocation has been determined by means of this backing material (1), in a state in which the backing material (1) is temporarily affixed to a surface to which tile is to be applied, adhesive is allowed to flow into the plurality of regions demarcated by means of the dividing plate portions (3), tiles are inlaid, and thereby, tile application can be easily accomplished.

FIG.1



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Background of the Invention

[Field of Use in Industry]

The present invention relates to a tile application backing material which facilitates the application of tiles, as well as to a tile application execution method using this backing material.

[Technological Background]

Conventionally, among construction methods which facilitated tile affixing operations, a tile attachment method disclosed in Japanese Patent Application, Second Publication, Sho 63-289160 was known, in which a dry construction method was used in which a board having tiles affixed thereto in advance was attached on-site, and furthermore, the difficulties of the on-site adjustment in this dry construction method were solved.

This tile attachment method utilized a tile mat comprising hardened rubber or the like and having formed therein a plurality of tile engaging grooves; in this method, the tile mat was set and attached on-site at the position at which tiles were to be laid, and tiles were inlaid in these tile engaging grooves and attached. Here, stringing operations or the like for the purpose of allocating tile attachment positions are not necessary, as was the case with the dry construction method referred to above, and in addition, on-site setting is easily accomplished, so that a high degree of skill is not required of the operator.

However, in the method using the above tile mat, it is obvious that when the tiles are merely engaged in the tile mat, they can be easily removed by an outside force, and even if the tiles are attached in such a manner that adhesive is applied to the lower surface thereof, each tile is attached only to the tile mat, which is flexible, so that it is difficult to maintain the strength required for maintaining the optimum tile attachment position.

That is to say, in the case in which the tile mat is attached by means of a lapped flat seam or the like, if, for example, the tile mat is deformed as a result of changes in temperature or humidity or the like, there is a possibility that the tile will, together with the tile mat, partially lift away from the laying surface. In addition, it is possible, for example, to reduce the possibility of this occurring by adhering the entire tile mat to the laying surface; however, in this case, the amount of work involved in the application of the adhesive increases, the amount of adhesive required increases greatly, and in addition, the tile mat cannot be easily removed, so that reallocation and the like becomes difficult, and the ease of the laying operation, which is the primary beneficial characteristic, is reduced. That is to say, with the conventional tile mat as described above, it was impossible to avoid these types of difficulties and to attach the tiles so that they would not lift away from the backing.

Furthermore, the tile engaging grooves described above were simple rectangular concavities, so that it was necessary to consider the amount of adhesive used when inlaying tiles, so that with respect to this point, skill was required. That is to say, in order to adhere the tiles to the tile mat with a high degree of reliability, it was necessary to place adhesive in the interstices around the tiles, and as a result of this, when the tiles were inlaid, only that amount of adhesive sufficient to cause extrusion of adhesive into the periphery of the tiles is necessary; however, if there is excess adhesive, adhesive will extrude to the surface of the tiles, and the finishing of the surface will be difficult. Furthermore, it is necessary to standardize the amount of adhesive in each concavity, so that the amount of adhesive must be controlled for each concavity in accordance with the size of the tiles.

A method for the laying of tiles in which a framework comprising bars assembled into a lattice form was applied to the laying surface of the tiles, the spaces formed by this framework were used for allocation, and the tiles were laid, was disclosed in Japanese Patent Application, First Publication, Laid-open No. Hei 1-304257. This method was characterized in that there were no problems such as the lifting away of the tile mat, and moreover, allocation by means of stringing and the like was not necessary; however, the guiding functions of the framework at the time of the positioning of the tiles were extremely poor, and it was not a method by which the laying of the tiles could be easily accomplished by an unskilled worker, as the operation required was not a simple one such as the inlaying of tiles.

Summary of the Invention

The present invention was created in light of the conditions in the technological background described above; it is an object thereof to provided a tile application backing material which greatly simplifies the allocation, positioning, and adhering of tiles, makes possible a laying operation which is easily accomplished even by an unskilled worker, and which realizes a strong attached state of the tiles with respect to the backing.

The present invention provides the type of tile application backing material described below. That is to say, a plurality of frame members are disposed extending along the sides of tiles having a polygonal shape, and are integrally formed so as to be connected at intersections thereof, and in a polygon enclosing one tile, tile support portions are formed in the vicinity of at least 2 intersections extending from frame members between the tile and the laying surface, so as to form a space between the tile and the laying surface to which adhesive is to be supplied; furthermore,

elongated holes for filling with adhesive are formed in a penetrating manner in the inner portions of frame members in which tile support portions are formed and along the axis thereof.

In accordance with the backing material of the present invention, after allocation has been determined by means of this backing material, in a state in which the backing material is temporarily affixed to a surface to which tile is to be applied, adhesive is allowed to flow into the plurality of regions demarcated by means of the dividing plate portions, tiles are inlaid, and thereby, tile application can be easily accomplished.

That is to say, in the backing material of the present invention, a plurality of regions for the inlaying of tile are demarcated by means of the frame members, so that by the timely cutting of this backing material and the arrangement and attachment thereof to the laying surface on which tile is to be laid, it is possible to make an approximation of the finished form and to conduct allocation, so that a stringing operation is not necessary.

In the present invention, tile support portions are formed extending from frame members between tiles and the laying surface so as to form a space between the tile and the laying surface, adhesive flows into this space, and the adhesion between the tile and the laying surface is maintained. Furthermore, elongated holes are formed in a penetrating manner in the frame members having formed thereon tile support portions and along the axes thereof, and adhesive flows into these elongated holes, so that adhesion is further strengthened.

Furthermore, the present invention also provides a tile application backing material formed integrally with a form in which a plurality of frame members are disposed extending along sides of tiles having a polygonal shape and connected at intersection points thereof, in which the frame members are formed from a base portion in contact with a laying surface and dividing plate portions disposed thereabove are formed with an cross sectional inverted T shape, and notches for inflow and outflow of adhesive are formed in said dividing plate portions.

By forming the frame members with an inverted T shape in the cross section thereof, the strength of the frame members themselves is increased, and the base portion causes the formation of a space between the tile and the laying surface, so that an adhesive flows therein and maintains the attachment between the tile and the laying surface.

In addition, the dividing plate portions are disposed vertically with respect to the laying surface, so that when the tiles are inlaid, these dividing plates function as positioning guides for the tile, and even if, for example, the laying surface is a vertical surface, the inlaid tiles will be reliably supported by the dividing plate portions until the hardening of the adhesive, so that the tiles will not change in position or fall out.

Furthermore, the dividing plates, which are in a fixed state with respect to the regions in which the plurality of tiles are inlaid, form the tile joints, so that the finished divisions accurately form the desired pattern. (That is to say, the joints have a consistent form.)

Furthermore, by means of forming notches in the above dividing plate portions for the purpose of the inflow or outflow of adhesive, it is possible for the tile adhesive to escape to a peripheral region from a region in which a tile is inlaid by means of a notch, and the adhesive flowing onto the backing material flows into or out of each space between regions before hardening, so as to achieve overall uniformity. For this reason, there is no reason to take into account the amount of adhesive into each region into which tiles are inlaid; instead, this amount can be adjusted to the appropriate amount for all regions.

Furthermore, connection portions are formed at side portions of the base portions, and by mutually connecting these, base portions can be connected extremely easily for use as a large backing material.

In addition, the present invention also provides the following execution method. That is to say, a tile application backing material, which demarcates a plurality of spaces for the support of the tiles in a state in which the tiles are laid on a laying surface, and in a state in which the lower surfaces of the tiles oppose the laying surface, is constructed in advance, and after this is temporarily held in position on the laying surface, adhesive (fixative) is supplied to the spaces, and furthermore, tiles are placed on these spaces, and by means of the hardening of the adhesive, the tile application backing material and the tiles are affixed to the laying surface.

Brief Description of the Drawings

Fig. 1 is a top view showing the tile application backing material of the first preferred embodiment of the present invention.

Fig. 2 is a top view of this backing material in which a portion of the backing material has been enlarged.

Fig. 3 explains the shape of the projecting connecting portion; (A) is a top view of the projecting connecting portion, while (B) is a side cross sectional view of the projecting connecting portion.

Fig. 4 explains the shape of the engaging connecting portion; (A) is a top view showing the engaging connecting portion, while (B) is a side cross sectional view of the engaging connecting portion.

Fig. 5 is a top view of the connecting portion which explains the state in which the projecting connecting portion and engaging connecting portion are connected.

Fig. 6 is a side cross sectional view of the con-

necting portion which explains the connected state of the connecting portions of a conventional tile application backing material.

Fig. 7 is a top view of the backing material having ribs of the second preferred embodiment of the present invention, in which a portion of the backing material is depicted in an enlarged state.

Fig. 8 is a top view showing the tile application backing material of the third preferred embodiment of the present invention.

Preferred Embodiments of the Invention

Hereinbelow, explanation will be given with regard to the preferred embodiment of the tile application backing material of the present invention.

Figs. 1-5 are views showing a tile application backing material in accordance with a first preferred embodiment of the present invention.

In the diagrams, reference numeral 1 indicates a tile application backing material (hereinbelow termed "backing material"). This backing material 1 is integrally formed by, for example, injection press molding, vacuum molding or the like, and comprises a base portion 2, which is applied to the laying surface to which tiles T are to be applied, and dividing plate portions 3, which are provided vertically above this base portion 2. Dividing plate portions 3 demarcate a plurality of regions R which are slightly larger than the tiles T which are to be applied, and angular holes (penetrating holes) 4 are formed in the base portion 2 within the regions R demarcated by means of the dividing plate portions 3. That is to say, backing material 1 is formed with an overall lattice shape.

The locations at which the band plate form portions comprising the lattice shape of the base portion 2 of the backing material 1 intersect are formed as plate portions 5, which are formed with a cross shaped plate form, and pin holes 6 are formed at the central position of the cross of these plate portions 5. Furthermore, elongated holes 7 are formed along the cross in these plate portions 5. In angular holes 4 of base portion 2, in the vicinity of the corner portion S lying in one direction, a guide lip 8 which extends in the inner direction of angular hole 4 from the various belt plate form portions is formed. In addition, this guide lip 8 accommodates the angled portion of tile T, thus conducting positioning in the corner portion S in which the guide lip 8 is formed. That is to say, by means of this guide lip 8, the positioning direction of tile T (the direction indicated by the arrow marked "X" in Fig. 2) can be verified at a glance.

Dividing plate portions 3 are formed with such a height that they are covered by the joints of tiles T when tiles T are inlaid in regions R, so that in the central portion thereof, notches 3a are formed. Furthermore, in notches 3a, step portions 3b are integrally formed, and the decrease in rigidity of backing material 1 resulting from the notching of dividing plate portions 3 is suppressed, and excellent rigidity is ensured.

Connecting portions 11a and 11b, which extend the belt plate form portions of base portion 2 forming a lattice, are integrally formed at the side portions of the base portion 2 of this backing material 1. On the side of one side portion among these connection portions 11a and 11b, as shown in Figs. 3(A) and (B), projecting connecting portions 14 having projecting portions 12 which project in a direction of separation from the laying surface are formed, and on the side of the other side portion, as shown in Figs. 4(A) and (B), engaging connecting portions 19, having engaging holes 13 for engaging the above projecting portions 12, are formed. That is to say, by means of engaging the engaging holes 13 of engaging connecting portions 15 of a backing material 1 with the projecting portions 12 of the projecting connecting portions 14 of another backing material 1, the belt plate form portions comprising the lattice form of the base portion 2 of a backing material 1 are connected in a straight line with the belt plate form portions of the base portion 2 of another backing material 1, and a plurality of backing materials 1 can be mutually connected. In addition, by means of the mutual connection of a plurality of backing materials 1, rectangular regions R, which are capable of accepting tiles T, are formed in these connection portions as well.

Hole portions 16 are formed in the vicinity of the side portion of projection portions 12 of projecting connecting portions 14, and in the state in which the engaging holes 13 of engaging connecting portions 15 are engaged with and connected to the projecting portions 12 of this projecting connecting portion 14, as shown in Fig. 5, this hole portion 16 communicates with the engaging holes 13 of the engaging connecting portions 15. The projecting portions 12 formed in the projecting connecting portions 14 are constricted in the vicinity of the lower portion thereof, and by means of the engaging of engaging holes 13 of the engaging connecting portions 15 with these projecting portions, these engaging holes 13 are connected to the constricted area of the projecting portions 12. Suspending lip 17 is formed in the engaging holes 13 of the engaging connecting portions 15, and when the engaging holes 13 are engaged with the projecting portions 12, a reliable connected state of the projecting portions 12 and the engaging holes 13 is thus ensured.

In the regions R formed by means of the connection of the connecting portions 11a and 11b, when the tiles T are laid so that the angled portion thereof is aligned with the corner portion S in which the guide lip 8 is formed, these connecting portions 11a and 11b are disposed so as to be positioned between tiles T. That is to say, these connecting portions 11a and 11b are formed at a position which is slightly dis-

placed from a position which is directly above the belt plate form portions of the base portion 2 comprising a lattice.

Using a backing material 1 having the above structure, a method for the conducting of tile application on the floor (laying surface) of a building will be explained.

(1) First a backing material 1 is arranged and temporarily fixed to the floor, an assumption is made as to the finished form, and allocation is conducted. At this time, by means of the insertion of pins through the pin holes 6 formed in the center of the plate portions 5 of the backing material 1 and into the laying surface, the temporary attachment of this backing material 1 can be easily accomplished. In the case in which tiles T are to be laid on a horizontal surface, the simple arrangement of the backing material 1 will suffice. In the case in which the laying surface of tiles T is large, a plurality of backing materials 1, 1 may be connected at the connecting portions 11a and 11b thereof.

(2) Next, an adhesive such as, for example, cement paste, or the like, is caused to flow into the regions R of the backing material 1, and the angled portions of tiles T are moved in the direction of corner portion S, in which guide lip 8 is formed, of base portion 2, that is to say, in the positioning direction (the direction indicated by the "X" arrow in Fig. 2), until side parts of tiles T and dividing plate portions 3 are placed in contact.

Here, when the angled portion of a tile T is moved to the corner portion S of base portion 2, the guide lip 8, which is formed extending in an interior direction of angular hole 4 formed in the belt plate form portion of base portion 2, is inserted between tile T and the laying surface, and thereby, tile T is placed on base portion 2. That is to say, by means of the mutual contact of the side portion of a tile T and the side portion of base portion 2, positioning defects are prevented, and it is possible to reliably place the side portion of a tile T against the side portions of dividing plate portions 3, thus conducting positioning.

Angular holes 4 and elongated holes 7 are formed in this backing material 1, so that adhesive reliably flows to the floor surface from these angled holes 4 and elongated holes 7, and the adhesion of the backing material 1 to the floor surface is reliable.

Furthermore, the above connecting portions 11a and 11b are disposed so as to be positioned between tiles T so that by means of the interference between the bottom surface of these tiles T and the connecting portions 11a and 11b, faults such as the lifting away of tiles are prevented.

Adhesive is capable of flowing out through the notches 3a formed in the center portion of dividing plate portions 3 to the peripheral regions R, so that it is acceptable to introduce a large amount of adhesive so that adhesive flows into all regions R, and it is not necessary to pay particular attention to the amount of adhesive R.

(3) In addition, after all tiles T have been inlaid, the pins which were inserted through pin holes 6 into the floor surface for the purpose of temporary attachment have been removed, and where necessary, time has been allowed to elapse for the curing of the adhesive, joint filling is conducted by filling joints between tiles T with a joint filling agent, for example, white mortar, or the like.

In a case in which, as a result of adjustment to the site at the time of allocation, the backing material 1 has been cut in the vicinity of a wall, and thus a region R is not of a standard size, the cutting and inlaying of a tile T in accordance with the dimensions of this region R is identical to that conducted in conventional methods.

As explained above, in accordance with the backing material 1 of this preferred embodiment, after the determination of allocation by means of this backing material 1, in the state in which this backing material 1 is temporarily attached to a floor surface, adhesive is caused to flow into a plurality of regions R demarcated by means of dividing plate portions 3, and tiles T are inlaid, and by means of this, tile application can be conducted in an extremely simple and reliable manner.

Furthermore, when tiles T are inlaid into regions R demarcated by means of dividing plate portions 3, the guide lips 8 formed in corner portions S of the angular holes 4 of the base portion 2 are positioned between the tiles T and the floor surface. That is to say, these guide lips 8 are in a state in which they are inserted between tiles T and the floor surface, so that as a result of the contact of the side surface of the tiles T and the side surface of the base portion 2, positioning defects do not occur, the tiles T are reliably laid on the base portion 2, and in regions R, the side portions of the tiles T and the side portions of the dividing plate portions 3 are reliably placed in contact, and positioning can thus be conducted.

Furthermore, in the connecting portions 11a and 11b of the various backing materials 1, the engaging holes 13 of the projecting connecting portions 14 are in a state in which they communicate, so that, in contrast with the conventional case shown in Fig. 6, at the time of the inflow of the adhesive for the attachment of the tiles T, this adhesive passes through the engaging holes 13, which are in a communicating state, and through the hole portions 16, and flows to the laying surface, so that it is possible to ensure a reliable adhesive state of the connecting portions 11a and 11b to the laying surface. By means of this, the occurrence of faults such as the detachment of the

connecting portions 11a and 11b from the laying surface, or the like, can be prevented, and it is possible to reliably conduct tile application to a laying surface over a wide area. That is to say, skill in the operation is not necessary, so that even an unskilled worker can easily conduct the laying operation of tiles T, and the operational efficiency of the laying operating of tiles T is greatly increased. Moreover, an extremely good finished form can be obtained for the laid form of the tiles T, in which the joints thereof are regular and run along dividing plate portions 3. Furthermore, guide lips 8 are formed in the corner portions S on the same directional side of the angular holes 4 of base portion 2, so that it is possible to verify the positioning direction of tiles T in an extremely easy manner.

A second preferred embodiment of the present invention is shown in Fig. 7; in order to increase the rigidity of the backing material 1 of the above preferred embodiments, ribs 15 which extend between mutually neighboring side portions of base portion 2 are formed in angular holes 4 of base portion 2. In this manner, by means of providing ribs 15 in angular holes 4, the rigidity of backing material 1 is increased, deformations in backing material 1 at the time of the installation operation of backing material 1 on a floor surface are prevented, and it is possible to further increase the ease of operation of the installation operation. It is of course possible to increase the rigidity of backing material 1 in a manner identical to that given above even if cross shaped ribs are so formed in the angular holes 4 of the base portion 2 as to connect opposing side portions of the base portion 2.

The number and size of the regions R in which tiles T are inlaid of the backing materials 1 of the above preferred embodiments are not limited to those given in the preferred embodiments. Furthermore, in the above preferred embodiments, a square angular hole 4 was formed as the penetrating hole in each region R; however, this penetrating hole is not limited to that shown in the preferred embodiments, so that, for example, holes with a rectangular or trapezoidal shape are of course possible.

Fig. 8 is a top view showing a tile application backing material in accordance with a third preferred embodiment of the present invention.

In the diagram, reference numeral 21 indicates a tile application backing material. This backing material 21 is formed integrally, as in the case of the backing material 1 of the first and second preferred embodiments, and is comprising a base portion 22 which is applied to a laying surface to which tiles T2 are to be applied, and dividing plate portions 23 which are provided vertically above this base portion 22. In base portion 22, a plurality of horizontal joint portions 31 having an elongated plate shape are arranged in parallel on the same surface; and between neighboring horizontal joint portions 31a and 31b, vertical joint portions 32, 32,..., which connect the horizontal joint portions 31a and 31b in a direction perpendicular to these horizontal joint portions 31a and 31b, are provided at equal intervals. Furthermore, between neighboring horizontal joint portions 31b and 31c as well, vertical joint portions 32, 32,..., which connect horizontal joint portions 31b and 31c in a direction perpendicular to these horizontal joint portions 31b and 31c, are provided at positions which are central points between the vertical joint portions 32, 32,..., between the above horizontal joint portions 31a and 31b. Below this, in the same manner, vertical joint portions 32, 32, ..., are provided between horizontal joint portions 31c, 31d, ..., as well, in accordance with the above stipulations.

At both end portions of these horizontal joint portions 31a, 31b, ..., connecting portions 33a and 33b are integrally formed. In connecting portions 33a, which are on the side of one side portion among these connecting portions 33a and 33b, projecting portions 34, which project in a direction of separation from the laying surface, are formed, and in the connecting portions 33b on the side of the other side portion, engaging holes 35 for engaging these projecting portions 34 are formed. That is to say, by engaging the engaging holes 35 of the connecting portions 33b of the horizontal joint portions 31a, 31b, ..., of a backing material 21 with the projecting portions 34 of the connecting portions 33a of the horizontal joint portions 31a, 31b, ..., of a neighboring backing material 21, one backing material 21 and another backing material 21 are connected in a straight line, and a plurality of backing materials 21, 21 can be connected to one another. In addition, by means of the vertical and horizontal connection of a plurality of backing materials 21, 21, regions R2, having a roughly rectangular shape in which tiles 22 can be installed, are formed vertically and horizontally in the connection portions thereof.

Dividing plate portions 23 are formed above the horizontal joint portions 31a (31b, ...) of the base portion 22 and along the longitudinal direction of the horizontal joint portions 31a (31b, ...,) and demarcate a plurality of regions R2 which are slightly larger than the tiles T2 which are applied; the dividing plate portions 23 are of such a height as to be covered by the joints of the tiles T2 in the case which the tiles T2 are inlaid in regions R2. In addition, in regions R2 in the base portion 22 demarcated by means of these dividing plate portions 23, approximately rectangular holes (penetrating holes 24) are formed. Furthermore, at the intersecting portions 41 between the horizontal joint portions 31a, 31b, ... and the vertical joint portions 32, 32, ... and at a position neighboring one side surface of the dividing plate portions 23, a hole 42 for fixing the base portion 22 on the above laying surface is formed.

A method for the application of tiles to the wall surface (laying surface) of a building using a backing

material 21 having the above structure will be explained.

(1) First, after conducting horizontal setting-out on the wall surface to which tiles T2 are to be applied, backing materials 21 are arranged and temporarily attached in accordance with this setting-out. An approximation is made of the finished form, and allocation is conducted. At this time, iron nails are inserted into holes 42 formed at intersection portions 41 between horizontal joint portions 31a, 31b, ..., and vertical joint portions 32, 32, ... of backing material 21, and are driven into the wall surface. The iron nails are driven in at freely selected points so that the rigidity of backing material 21 can be horizontally maintained. By means of this, it is possible to easily conduct the temporary attachment of backing material 21. In the case in which tiles T2 are to be laid on a horizontal surface such as a floor or the like, a simple arrangement of backing materials 21 will suffice.

(2) Next, on this backing material 21, mortar or adhesive for use with tiles is applied using a rubber trowel, a plastic trowel, or a metal trowel or the like, and the application surface is leveled so that the top portions of the dividing plate portions 23 appear.

(3) Next, tiles T2 are placed at specified positions on base portion 22, and the bottom edge portion of the tiles T2 are fixed in contact with the upper surface of the dividing plate portions 23.

By means of this, tiles T2 are fixed at specified positions on the base portion 22, and because no slippage of the tiles T2 in a downward direction occurs, it is possible to reliably place the lower edge portions of tiles T2 in contact with the upper surface of dividing plate portions 23, so that positioning defects can be prevented. In particular, operations to correct vertical slippage, which often occurred with conventional technologies when heavy tiles T2 were applied, were not necessary, and a more accurate and aesthetically pleasing finished surface can be obtained.

(4) In addition, when all tiles T2 have been applied, the iron nails used for temporary attachment are removed from holes 42, and where necessary, after time has been allowed to elapse for the curing of the tile mortar or tile adhesive, joint filling is conducted by filling the joints between tiles T2 with a joint filling agent such as white mortar or the like.

In cases in which the backing material 21 is cut near the edge portion of a wall surface, and a region R having a nonstandard size results as a result of adjustments at the site at the time of allocation, the cutting and fixing of a tile T2 in accordance with the dimensions of this region R is identical to that which was conventionally conducted.

As explained above, in accordance with the backing material 21 of this fifth preferred embodiment, after allocation has been determined by means of this backing material, by means of the insertion of iron nails into the floor surface through holes 42 of the backing material 21 and the affixing of backing material 21 to the floor surface, the temporary attachment of this backing material 21 is easily accomplished.

Furthermore, in this affixed state, by applying tiles T2 to the plurality of regions R2 demarcated by means of the dividing plate portions 23, tile application can be conducted in an extremely easy and reliable manner. Accordingly, it is possible to greatly increase the operational efficiency of the laying operation of tiles T2. Moreover, it is possible to obtain an extremely good finished state having joints which are regular and follow the dividing plate portions 23.

Claims

1. A tile application backing material formed integrally with a form in which a plurality of frame members are disposed extending along sides of tiles having a polygonal shape and connected at intersection points thereof, wherein
   (a) in a polygon enclosing 1 tile, in at least a vicinity of 2 intersection points, tile support portions extending from frame members between tiles and a laying surface so as to form a space between said tiles and said laying surface to which adhesive is to be supplied, are formed, and
   (b)in frame members in which said tile support portions are formed, elongated holes, an interior portion of which is to be filled with adhesive, are formed in a penetrating manner along an axis thereof.

2. A tile application backing material in accordance with claim 1, wherein, at at least 1 intersection point, guide lips having a polygonal shape and extending in an inner direction from said tile support portions are formed.

3. A tile application backing material in accordance with claim 1, wherein holes are formed for insertion of pins and the like for affixing said backing material to a laying surface by means of pins.

4. A tile application backing material in accordance with claim 1, wherein connecting portions for connecting neighboring base portions and by means of this forming polygons with an identical shape are formed.

5. A tile application backing material in accordance

with claim 4, wherein said connecting portions are comprising projecting connecting portions having projecting portions and engaging connecting portions having engaging holes engagible with projections of said projecting portions, and in a vicinity of side portions of projecting portions of said projecting connecting portions, hole portions are formed which communicate with engaging holes of said engaging connecting portions in a state in which said projecting connecting portions and engaging connecting portions are connected.

6. A tile application backing material formed integrally with a form in which a plurality of frame members are disposed extending along sides of tiles having a polygonal shape and connected at intersection points thereof, wherein
(a) said frame members are formed from a base portion in contact with a laying surface and dividing plate portions disposed thereabove, and are formed with an crows sectional inverted T shape, and
(b) notches for inflow and outflow of adhesive are formed in said dividing plate portions.

7. A tile application backing material in accordance with claim 6, wherein, at at least 1 intersection point, guide lips having a polygonal shape and extending in an inner direction.from said tile support portions are formed.

8. A tile application backing material in accordance with claim 6, wherein holes are formed for insertion of pins and the like for affixing said backing material to a laying surface by means of pins.

9. A tile application backing material in accordance with claim 6, wherein connecting portions for connecting neighboring base portions and by means of this forming polygons with an identical shape are formed.

10. A tile application backing material in accordance with claim 9, wherein said connecting portions are comprising projecting connecting portions having projecting portions and engaging connecting portions having engaging holes engagible with projections of said projecting portions, and in a vicinity of side portions of projecting portions of said projecting connecting portions, hole portions are formed which communicate with engaging holes of said engaging connecting portions in a state in which said projecting connecting portions and engaging connecting portions are connected.

11. A tile application execution method, wherein in a state in which tiles are laid in a laying surface, and in a state in which bottom surfaces of said tiles are in opposition to said laying surface, a tile application backing material which demarcates a plurality of spaces supporting said tiles is prepared in advance, this is temporarily attached to said laying surface, then adhesive (fixing agent) is supplied to said spaces, tiles are laid on said spaces, and by means of curing of said adhesive, said tile application backing material and said tiles are affixed to said laying surface.

12. A tile application execution method in accordance with claim 11, wherein said tile application backing material has following characteristics:
(a) in a polygon enclosing 1 tile, in at least the vicinity of 2 intersection points, tile support portions extending from frame members between tiles and a laying surface so as to form a space between said tiles and said laying surface to which adhesive is to be supplied, are formed, and
(b) in frame members in which said tile support portions are formed, elongated holes, an interior portion of which is to be filled with adhesive, are formed in a penetrating manner along an axis thereof.

13. A tile application execution method in accordance with claim 12, wherein, in said tile application backing material, at at least 1 intersection point, guide lips having a polygonal shape and extending in an inner direction from said tile support portions are formed.

14. A tile application execution method in accordance with claim 12, wherein, in said tile application backing material, holes are formed for insertion of pins and the like for affixing said backing material to a laying surface by means of pins.

15. A tile application execution method in accordance with claim 12, wherein, in said tile application backing material, connecting portions for connecting neighboring base portions and by means of this forming polygons with an identical shape are formed.

16. A tile application execution method in accordance with claim 11, wherein said tile application backing material has following characteristics:
(a) said frame members are formed from a base portion in contact with a laying surface and dividing plate portions disposed thereabove, and are formed with an cross sectional inverted T shape, and
(b)notches for inflow and outflow of adhesive are formed in said dividing plate portions.

17. A tile application execution method in accordance with claim 16, wherein, in said tile application backing material, at at least 1 intersection point, guide lips having a polygonal shape and extending in an inner direction from said tile support portions are formed.

18. A tile application execution method in accordance with claim 16, wherein, in said tile application backing material, holes are formed for insertion of pins and the like for affixing said backing material to a laying surface by means of pins.

19. A tile application execution method in accordance with claim 16, wherein connecting portions, for connecting neighboring base portions and by means of this forming polygons with an identical shape, are formed.

FIG.1

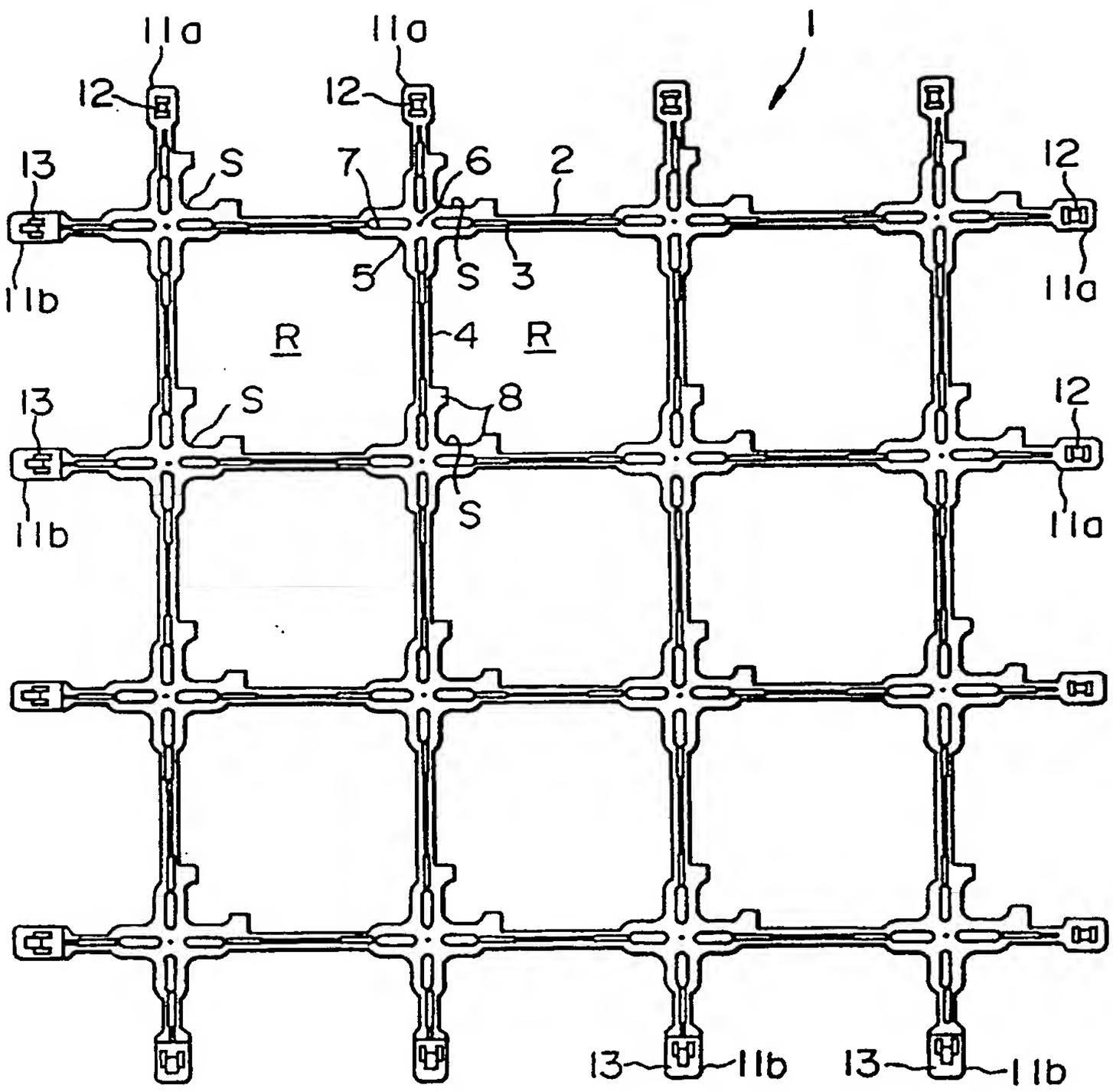

FIG.2

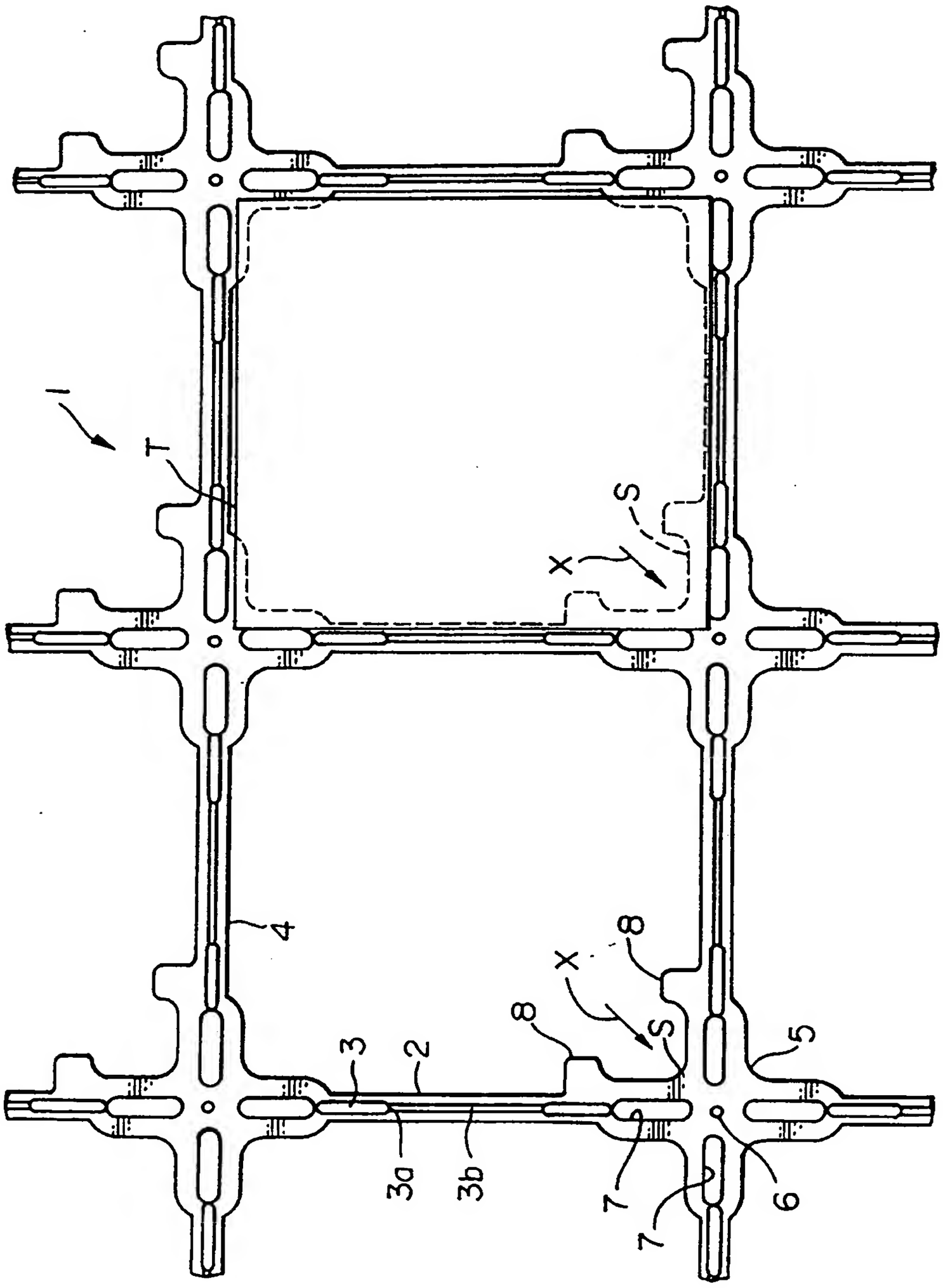

FIG.3

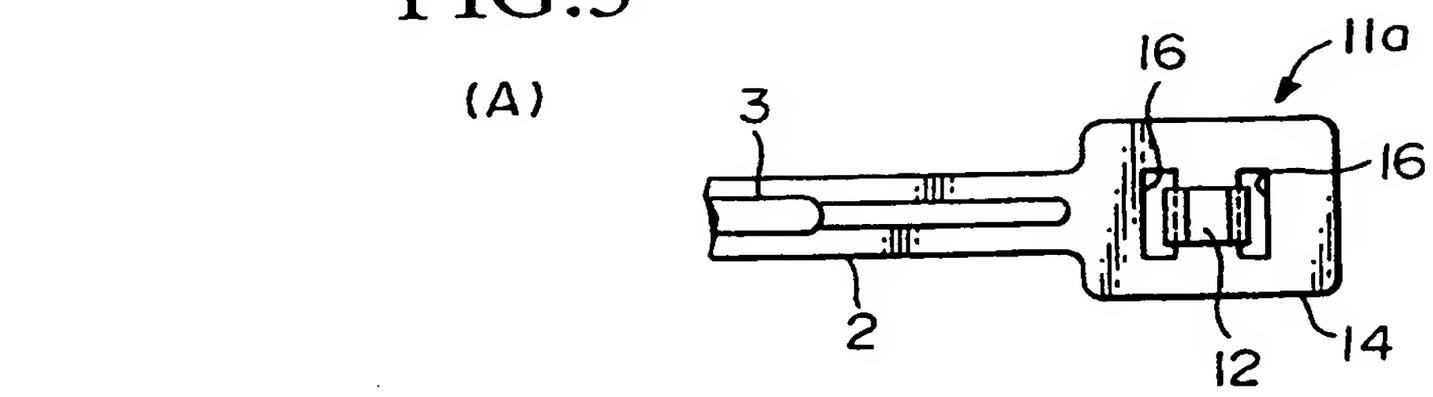
(A)
3
16
11a
16
2
12
14
(B)
3
11a
12
14
2
16
16

FIG.4

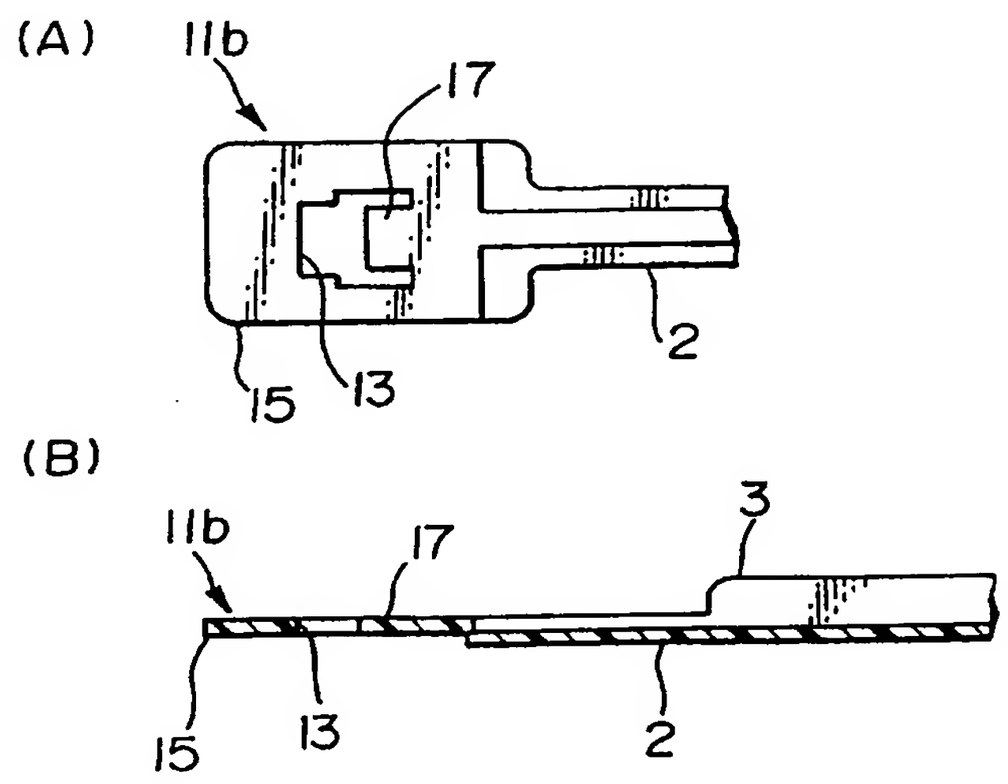
(A)
11b
17
2
15
13
(B)
3
11b
17
15
13
2

FIG.5

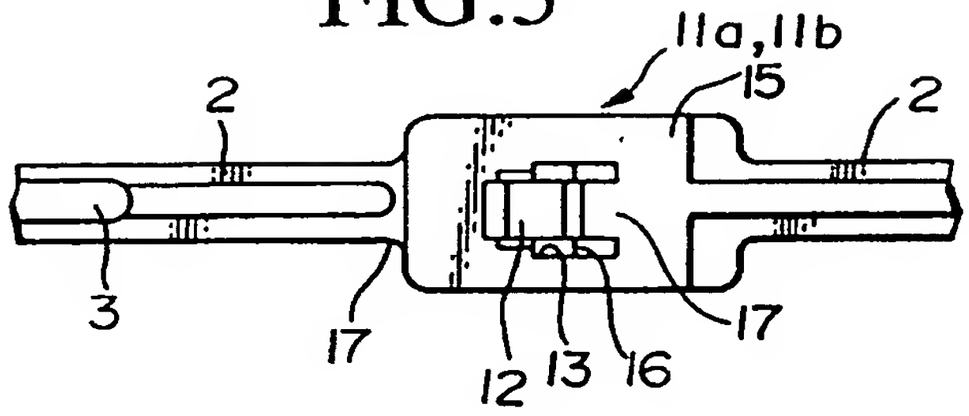

FIG.6 (PRIOR ART)

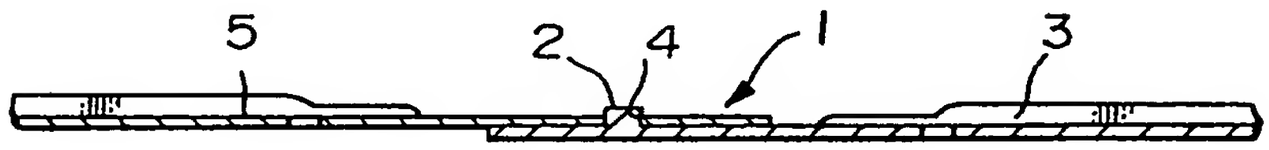

FIG.7

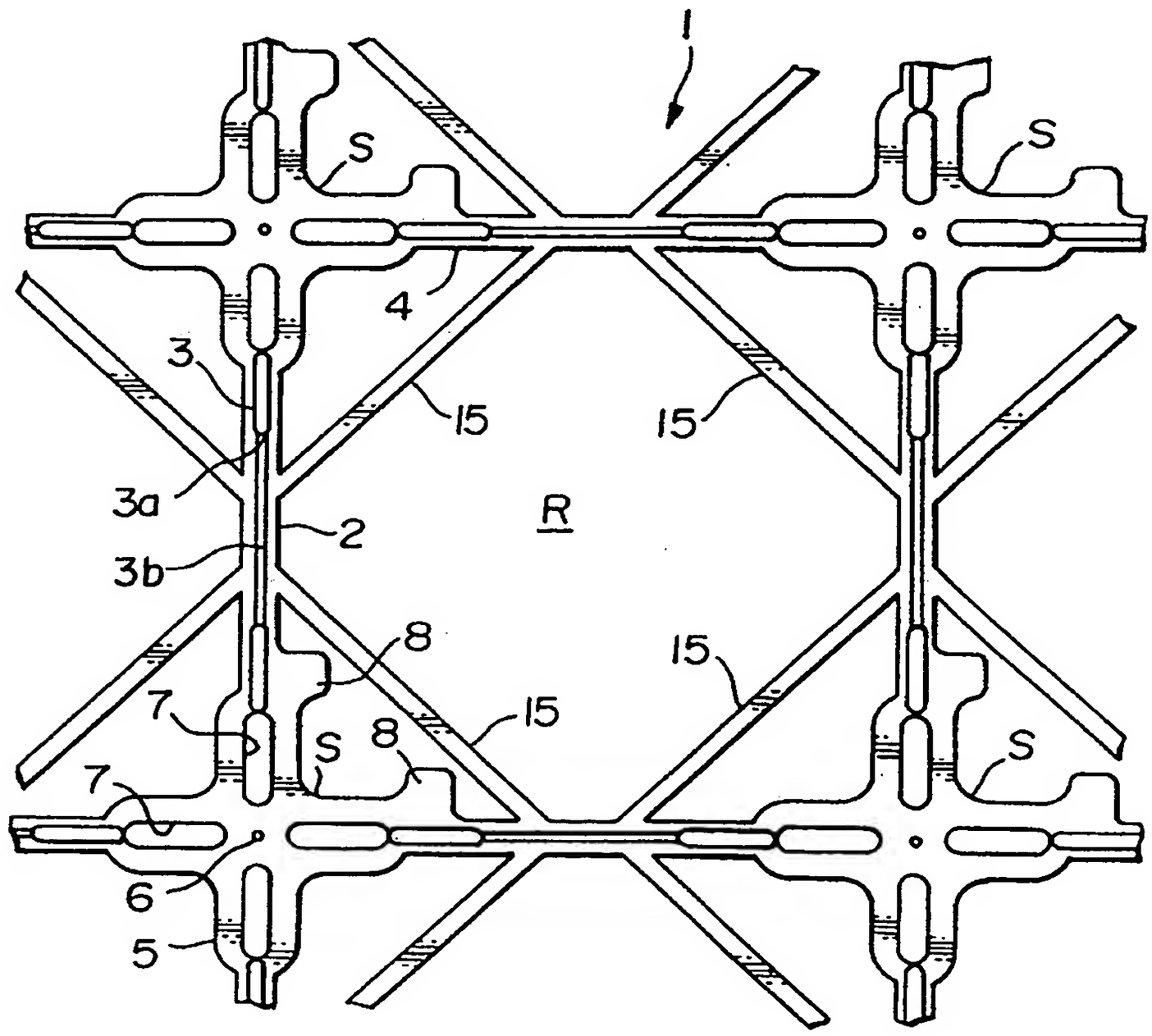

FIG.8